

U.S. Application No.: 10/635,486  
Response to Office Action of March 20, 2007

Attorney Docket No.: FSF-031421

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (cancelled)
2. (previously presented): The photothermographic material according to claim 21, wherein the non-photosensitive organic silver salt including the photosensitive silver halide is produced by adding an alkali metal salt to an organic acid to prepare an alkali metal soap of at least a part of the organic acid, mixing the prepared alkali metal soap with the photosensitive silver halide, and thereafter admixing therewith a water-soluble silver salt.
3. (canceled)
4. (canceled)
5. (previously presented): The photothermographic material according to claim 21, wherein the binder is polyvinyl butyral.
6. (previously presented): The photothermographic material according to claim 21, wherein methyl ethyl ketone is used as a solvent for a coating

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solution, and a residual amount of the methyl ethyl ketone ranges from 0.1 mg/m<sup>2</sup> to 150 mg/m<sup>2</sup>.

7. (cancelled)

8. (previously presented): The photothermographic material according to claim 21, further comprising a compound selected from compounds of the following types 1 to 5:

(Type 1)

a compound that can be one-electron oxidized to produce a one-electron oxidation product, which releases two or more electrons through a bond cleaving reaction;

(Type 2)

a compound that has two or more adsorptive groups to the silver halide in the same molecular structure and can be one-electron oxidized to produce a one-electron oxidation product which further releases one electron through a bond cleaving reaction;

(Type 3)

a compound that can be one-electron oxidized to produce a one-electron oxidation product, which releases additional one or more electrons after a bond forming process;

(Type 4)

a compound that can be one-electron oxidized to produce a one-electron oxidation product, which releases additional one or more electrons after an intra-molecular ring opening reaction; and

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(Type 5)

a compound represented by X-Y, in which X represents a reducing group and Y represents a leaving group, wherein the reducing group X can be one-electron oxidized to produce a one-electron oxidation product, which leaves Y to produce X radical through an X-Y bond cleaving reaction, followed by releasing one more electrons from the X radical.

9. (original): The photothermographic material according to claim 2, further comprising a compound selected from compounds of the following types 1 to 5:

(Type 1)

a compound that can be one-electron oxidized to produce a one-electron oxidation product, which releases two or more electrons through a bond cleaving reaction;

(Type 2)

a compound that has two or more adsorptive groups to the silver halide in the same molecular structure and can be one-electron oxidized to produce a one-electron oxidation product which further releases one electron through a bond cleaving reaction;

(Type 3)

a compound that can be one-electron oxidized to produce a one-electron oxidation product, which releases additional one or more electrons after a bond forming process;

(Type 4)

a compound that can be one-electron oxidized to produce a

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one-electron oxidation product, which releases additional one or more electrons after an intra-molecular ring opening reaction; and  
(Type 5)

a compound represented by X-Y, in which X represents a reducing group and Y represents a leaving group, wherein the reducing group X can be one-electron oxidized to produce a one-electron oxidation product, which leaves Y to produce X radical through an X-Y bond cleaving reaction, followed by releasing one more electrons from the X radical.

10. (previously presented): The photothermographic material according to claim 21, further comprising a compound represented by formula (H):

Formula (H)

$Q - (Y)n - C(Z_1) (Z_2) X$

wherein Q represents an alkyl group, an aryl group or a heterocyclic group; Y represents a bivalent linking group; n represents 0 or 1; Z<sub>1</sub> and Z<sub>2</sub> represent a halogen atom; and X represents a hydrogen atom or an electron attractive group.

11. (previously presented): The photothermographic material according to claim 2, further containing a compound represented by formula (H):

Formula (H)

$Q - (Y)n - C(Z_1) (Z_2) X$

wherein Q represents an alkyl group, an aryl group or a heterocyclic group; Y represents a bivalent linking group; n represents 0 or 1; Z<sub>1</sub> and Z<sub>2</sub>

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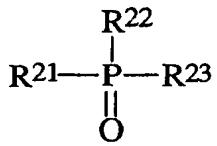
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represent a halogen atom; and X represents a hydrogen atom or an electron attractive group.

12. (cancelled)

13. (previously presented): The photothermographic material according to claim 21, further comprising a compound represented by formula (J):

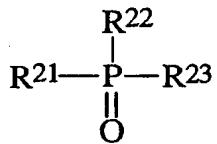
Formula (J)



wherein R<sup>21</sup> to R<sup>23</sup> each independently represent an alkyl group, an aryl group, an alkoxy group, an aryloxy group, an amino group or a heterocyclic group.

14. (original): The photothermographic material according to claim 2, further comprising a compound represented by formula (J):

Formula (J)



wherein R<sup>21</sup> to R<sup>23</sup> each independently represent an alkyl group, an

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aryl group, an alkoxy group, an aryloxy group, an amino group or a heterocyclic group.

15. (previously presented): The photothermographic material according to claim 21, further comprising a development accelerator.

16. (original): The photothermographic material according to claim 2, further comprising a development accelerator.

17. (original): The photothermographic material according to claim 15, wherein the development accelerator is a hydrazine-based or naphthol-based compound.

18. (cancelled)

19. (previously presented): The photothermographic material according to claim 21, wherein the photosensitive silver halide has a silver iodide content ranging from 85 mol% to 100 mol%.

20. (previously presented): The photothermographic material according to claim 21, wherein the photosensitive silver halide has a silver iodide content ranging from 90 mol% to 100 mol%.

21. (currently amended): A photothermographic material comprising a photosensitive silver halide, a bisphenol reducing agent for reducing silver

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ions, a binder and a non-photosensitive organic silver salt containing silver behenate, wherein the photosensitive silver halide has a silver iodide content ranging from 80 mol% to 100 mol% and a particle size ~~ranging from 5 nm to 50 nm of 45 nm or less~~, a coating amount of the silver halide is from 0.5 to 15 mol% 1 to 7 mol% per 1 mol of the organic silver salt, and the non-photosensitive organic silver salt is prepared in the presence of the photosensitive silver halide which has been preformed, such that the non-photosensitive organic silver salt includes the photosensitive silver halide, the non-photosensitive organic silver salt has a silver behenate content ranging from 40 mol% to 70 mol%, the non-photosensitive organic silver halide includes a needle crystal having a shorter axis of 0.01  $\mu$ m to 0.15  $\mu$ m and a longer axis of 0.10  $\mu$ m to 4.0  $\mu$ m, and the needle crystal has a monodispersed size distribution in which a standard deviation of a length of the minor axis or major axis divided by a length of the minor axis or major axis, respectively, is not more than 50 %.

22. (new): The photothermographic material according to claim 21, wherein the photosensitive silver halide has a particle size of 5 nm to 45 nm.